

# Choosing Healthplans All Together: A Deliberative Exercise for Allocating Limited Health Care Resources

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**Abstract** CHAT (Choosing Healthplans All Together) is an exercise in participatory decision making designed to engage the public in health care priority setting. Participants work individually and then in groups to distribute a limited number of pegs on a board as they select from a wide range of insurance options. Randomly distributed health events illustrate the consequences of insurance choices. In 1999–2000, the authors conducted fifty sessions of CHAT involving 592 residents of North Carolina. The exercise was rated highly regarding ease of use, informativeness, and enjoyment. Participants found the information believable and complete, thought the group decision-making process was fair, and were willing to abide by group decisions. CHAT holds promise as a tool to foster group deliberation, generate collective choices, and incorporate the preferences and values of consumers into allocation decisions. It can serve to inform and stimulate public dialogue about limited health care resources.

There is little disagreement that the U.S. health system is in trouble. Costs are on the rise after a period of restrained increases (Connolly 2002), the proportion of Americans without insurance continues to rise at an unacceptable rate (Agency for Healthcare, Research and Quality 2001; Serafini 2001), and Americans are, generally, dissatisfied and frustrated relative to citizens of other countries. Insured citizens are frustrated by a

We thank Praxis, Inc. for skill and diligence in recruitment and facilitation and Nancy J. Adams for superb manuscript preparation. Susan Goold was a Robert Wood Johnson Foundation generalist faculty scholar while some of this work was completed.

*Journal of Health Politics, Policy and Law*, Vol. 30, No. 4, August 2005. Copyright © 2005 by Duke University Press.

loss of control (or perceived loss of control) over medical decisions (Peterson 1999), by a fear of losing the insurance they have even while they bemoan its flaws (Public Opinion Strategies 2002), and by an increasing distrust of health care institutions and personnel (Mechanic 1996; Kao et al. 1998; Corbie-Smith et al. 1999; Murphy et al. 2001). At the same time, consumers, insulated from the real cost of health care services, have been characterized as unwilling to accept or even consider limits on the use of health services (Gold 1999; Enthoven and Singer 1999; Peterson 1999). Purchasers do not feel they are in control of the cost of health care, which is still heavily determined by the decisions of doctors and patients, and doctors and patients feel they have lost the final authority for clinical decisions, such as which drug to use or which doctor to see.

How to allocate (or prioritize) limited resources fairly and openly in the current climate is perhaps the most pressing moral and practical concern in the health care arena today; certainly the issue is of importance to nearly all citizens. Proposals aimed at empowering those affected by health care rationing decisions, at making health insurance more enrollee or patient centered, are usually based in one of two prominent schools of thought. In the *consumer sovereignty* (or informed choice) model, informed, prudent, and imaginative consumers choose from several diverse alternative health insurance plans according to their own values and preferences. Like the market allocation of other resources, this system would efficiently and fairly distribute goods according to differences in how individuals value various types and features of health insurance (Enthoven 2001; Robinson 2001). The *citizen involvement in rationing* model, in contrast, relies more on voice than on informed choice. According to this participatory conception, rationing decisions should reflect the values and preferences of a population or community, and the only way to incorporate those preferences and values is to involve those affected by decisions in the decision-making process (Eddy 1990; Menzel 1990; Fleck 1992, 1994; Goold 1996; Emanuel 1997; Daniels and Sabin 1998). Through participation, rationing becomes self-imposed; consent to rationing decisions occurs through participation much like in political systems. This model requires, and may also promote, an activated and motivated citizenry. It also may result in health insurance plans or organizations that are quite different in design from what is currently available on the market. Of course, these two models are not mutually exclusive. One could, in a health system (or even in a single organization) have elements of both choice and voice (Goold 1996), and there is some evidence that the two strategies may be complementary (Schlesinger, Mitchell, and Elbel 2002). Participatory processes

can be used to design health insurance options from which individuals then choose, or, alternatively, individuals might choose a particular health insurance because of its participatory decision-making processes.

Both models suffer from significant obstacles to implementation in our current health care system. First, decisions about health care, and particularly health insurance, lack salience for those who are relatively healthy. Thus, apathy impairs the willingness of most citizens to become informed or involved consumers. Consequently, health care workers, those with illnesses, or those (such as employers or governments) who appear to be bearing the costs may heavily influence decisions. Second, health care is complex, technical, intimidating, and rapidly changing. Daunted by the impossible task of being informed and prudent buyers, consumers may rely on doctors and insurers to make most decisions for them, trusting that the services they need in the event of illness will be available (Goold and Klipp 2002). Third, besides being complex, the information needed for wise health insurance selection is voluminous. To select insurance wisely, families need to imagine many potential illness scenarios and the implications of these illnesses for required or desired health services and then interpret health insurance policies' impact on access to those services. Fourth, a fair distribution of health care in a consumer sovereignty model assumes that the resources needed to purchase a fair share are themselves distributed justly. Fifth, in our current system the direct purchaser of health insurance is not usually the consumer of health services. Rather, intermediary purchasers—largely employers and governments—are the dominant choosers, and hence powerful actors, in the health insurance market. Because health insurance plans, like other businesses, need to market their product to their purchasers, they are likely to act in ways that maximize accountability to purchasers rather than to those most affected by their organizational decisions (i.e., the consumer of health care services). Governments sometimes take another role, as regulators of the market, which can result in barriers to free entry and exit of suppliers or, relatively unique to the health insurance market, in the mandating of specific aspects of the product (e.g., legislation mandating that insurers cover a minimum hospital stay for mastectomy). Finally, how to involve citizens or consumers in rationing decisions has been a thorny problem for proponents of the citizen involvement in rationing model (Ham and Coulter 2000). Without an effective means for involving a diverse, if not representative, group of citizens, problems arise from the tyranny of expertise or the influence of interest groups (Goold 1996; Jacobs 1996).

Health insurance uses pooled resources to pay for individual health

care needs. Hence, although individual preferences for aspects of coverage are important, these must be balanced by the current or future needs of others in the group. The need to make such trade-offs makes a group discussion of limited resources and their consequences, rather than (or in addition to) an individual exercise, conceptually appealing. The need for interpersonal trade-offs, and the balancing of individual with social or group needs, requires either procedural justice (i.e., fair processes for decision making) or distributive justice (i.e., fair distribution of benefits and burdens), or, ideally, both. Deliberative democratic decision making (Gutmann and Thompson 1997; Fishkin 1995) has been proposed and occasionally used as a method for citizen participation (Fleck 1992, 1994; Goold 1996; McIver 1998; Lenaghan 1999; Kipiriri, Norheim, and Heggenhougen 2003; Abelson et al. 1995; Abelson, Forest, and Eyles 2003). Although involving the public directly in policy decisions can be justified on theoretical and philosophical grounds, policy tools are often implemented prior to rigorous empirical evaluation, and deliberative procedures are no exception (Abelson, Forest, and Eyles 2003; Contandriopoulos 2004). Scholars debate the relative merits of various deliberative methods, arguing for particular modes of representation, for instance, or particular formats, usually on the basis of theoretical or practical concerns or post hoc studies. We have little empirical information about whether and how deliberative procedures work. How do such initiatives compare to existing democratic systems? How do various kinds of participatory processes affect group recommendations, individuals' perceptions of the fairness of the process or outcome of deliberations, or their ex post opinions? Does direct citizen participation in priority setting promote inclusiveness, respect, rationality, and consent? How do deliberative methods compare to other forms of citizen participation or consultation? How might choices about the structure of deliberations, or the selection of participants, influence participation, reason giving, or legitimacy? How might the heterogeneity of group composition influence individuals' participation in discussion or policy recommendations? Deliberative procedures, to be viewed as trustworthy mechanisms for public input into priority setting, need rigorous evaluation.

### **Criteria for Deliberative Procedures**

To evaluate deliberative procedures, we must first propose how such processes could be judged. It can be tempting to view deliberative procedures as solely the means toward an end, the end being better decisions or out-

comes, and hence propose evaluation criteria limited to the outcomes of successful public deliberations (Rowe and Frewer 2004). Although evaluating the outcomes or impact of deliberative procedures is important, it misses the normative argument that good deliberative democratic processes are of value in and of themselves and that such procedures can justifiably be criticized if they fail to meet normative standards, for instance for fair representation or transparency. Accordingly, we organize our proposed criteria into those that address the feasibility of deliberation, the structures of deliberation, the processes, and the outcomes, recognizing that some criteria may fall into more than one of these categories. We do not suggest that each and every criterion we propose should be included in every evaluation of deliberative procedures, since evaluation should target the goals of a particular deliberative project. Rather, our suggestions, although not exhaustive, could be considered a menu of possible criteria for the quality of deliberative procedures, based on theories of deliberative democracy, with a particular focus on criteria for deliberations about health or health care spending priorities.

For deliberation to be feasible, a representative sample of individuals needs to participate and participants need to be engaged. Recruiting representative individuals for deliberations about health priorities confronts special obstacles, because those with greater interests at stake (health professionals, for instance, or those with particular health problems) are likely to be more interested in attending. However, some of those with great interests at stake (e.g., with serious or chronic illnesses) may be physically less able to participate. Participants must also be able to understand the material and the topic, a particular challenge for deliberations about health insurance, health costs, and health care. Deliberation can be feasible only when participants are actively engaged in the topic, so evaluation should address participants' sense of their own contributions and their acceptance of the procedure. Feasibility of deliberation is also influenced by the extent to which individual views are clearly and accurately represented (communicated) to other deliberators.

Structures of deliberations typically reflect choices made prior to actual citizen participation. Representativeness and related concepts, such as inclusiveness, are key indicators of the quality of deliberative structures and can be assessed by describing the sample of participants and comparing it to the population(s) affected by the policy decision under discussion. Representation can be proportional (that is, roughly mirror the population; Rowe and Frewer 2004), but other forms of representation can also be justified. In setting governmental health priorities, all citizens are stakehold-

ers, but clearly some, including the chronically and seriously ill, will be more affected by such decisions and could justifiably be represented more fully than healthier citizens in deliberations about allocation decisions. In particular, the arrangement of deliberations should avoid the relative underrepresentation of those more vulnerable to the decision outcomes or with less social and political power (Goold 1996). Sources of information on which participants rely in deliberations can be judged according to their credibility, accuracy, accessibility to participants (whether they are comprehensible), and independence (lack of bias or perceived lack of bias). Early involvement of the public (both a structural and a procedural criterion), for instance in the planning process for a particular deliberative project, demonstrates a commitment to inclusiveness; the timing of public involvement should be justified by reference to the importance of early involvement for later deliberations (e.g., for ensuring the independence of sources of information) or the time when considerations of value (as opposed to technical information) initially become prominent for policy decisions. These, and other, criteria by which to judge the structures of deliberative procedures may be assessed using a variety of means and measures, including simple descriptions (e.g., comparing participants to the affected population), measuring the perceptions of participants (e.g., about the credibility of information), or critical judgments (e.g., about whether representativeness is best achieved proportionally).

Assessments of transparency, openness, and honesty apply to information sources, but also apply to the deliberative process. Do there appear to be hidden agendas in group dialogue? Do participants think other participants' contributions are sincere? Are members of the public aware of the deliberative project and its aims and results? The processes of deliberation can thus be evaluated according to their independence (lack of bias or perceived lack of bias), the quality and sincerity of arguments put forth by participants, the degree of participation (e.g., the extent to which equal participation is achieved, the absence of dominating participants, participant perceptions about the extent to which they had sufficient opportunity to be heard), how participants judge the fairness of the process, and the openness and transparency of procedures. Participants in deliberations might also demonstrate or report more public-spirited orientations (or less self-interested orientation) toward a particular policy question. In the case of health spending priorities, evaluation of the deliberative process might include indications that individuals or groups learn about health costs and trade-offs, are motivated to do so, change their views about rationing, or take the form of greater willingness to trade off individual benefits in light

of the claims of others. For policy issues that rely on highly complex or technical information, such as health policy, special attention should be paid to the potential for dominating experts (either as participants or as information sources). Where a policy issue has the potential to disproportionately affect the interests of vulnerable or stigmatized groups such as the mentally ill, chronically ill, or poor, their assessments of the deliberative process should receive special attention.

Outcomes of deliberations refer to the end products, or impact, including the effect deliberative procedures have on policy decisions (the criterion of influence), the impact on individual participants, and the impact on communities, the public, and relationships. For example, individuals or groups might demonstrate or report improvement in "individual or collective understanding" (Gutmann and Thompson 1997: 40); demonstrate or report greater political activation, participation, or empowerment (Zimmerman and Zahniser 1991); demonstrate or report changes in their ex post opinions about the decision at hand; change their views of government or public leaders; or have measurable changes in other opinions, attitudes, perceptions, behaviors, or knowledge related to the policy issue. For health care allocation decisions, one might gauge the influence of deliberations by examining how such procedures change the policy process or policy decisions, for instance whether the spectrum of covered benefits in a public program changes as a result of the deliberations. One might evaluate the extent to which participants, or the public at large, are more knowledgeable about health costs and trade-offs or whether they change their opinions about the relative priority of some types of services such as coverage for mental health services. Because deliberative processes aim to engage and activate the public, one could examine to what extent participants, or the public at large, continue to participate in resource allocation decisions.

The domains of structures, processes, and outcomes are not independent, but are interrelated. A particular structure (e.g., type of representation) could influence the process (e.g., equality of participation) or outcomes (e.g., participants' opinions).

The CHAT (Choosing Healthplans All Together) exercise described here is a decision-making tool designed to overcome some of the obstacles to both choice and voice, to learn about consumers' informed preferences and the values that underlie those preferences, and to serve as an example of a participatory, deliberative approach to the thorny moral issue of rationing health care. CHAT was designed to promote participatory decision making that is inclusive, deliberative, and accessible to a diverse

lay audience. In this article, we present the rationale for the design of the CHAT exercise and describe a project in which it was used to learn about public priorities for health benefits. As part of a larger project and body of work, we also aimed to address a subset of questions about the value of the tool as a deliberative procedure. We focused on evaluating the tool's feasibility and how it was judged by lay participants, especially participants from disadvantaged groups such as those with low incomes and the uninsured.

## **The Instrument**

CHAT was designed to accord with principles of democratic deliberation (Fleck 1992; Daniels and Sabin 1998; Gutmann and Thompson 1997). First, it was designed and pretested to ensure it was accessible and comprehensible to the widest possible spectrum of participants, including those with mild physical impairments; the exercise requires only a sixth-grade reading level and uses other techniques to simplify complex material. Each participant in the CHAT exercise has a fair opportunity to voice, and have considered, health care priorities that affect everyone, and the group discussion leader is trained to actively solicit input from all members of the group. The process of deliberation is designed to be systematic, transparent, and mutually respectful and to expose trade-offs to moral and rational assessment by individuals and by the group. Options available to individuals and the group as a whole were designed to be as inclusive as possible, although choices were constrained somewhat by limited actuarial data and by the need for simplicity. The exercise seeks to provide an opportunity for "advancing both individual and collective understanding" (Gutmann and Thompson 1997: 40) as individuals learn about the realities of limited resources and the consequences of the trade-offs they make when allocating those resources. Attempts to balance equity and efficiency are facilitated as participants simultaneously weigh desired clinical services against the realities of resource constraints. Finally, CHAT was designed to promote communal values while preserving individual autonomy (Fleck 1992, 1994); both individual and group preferences and values are solicited.

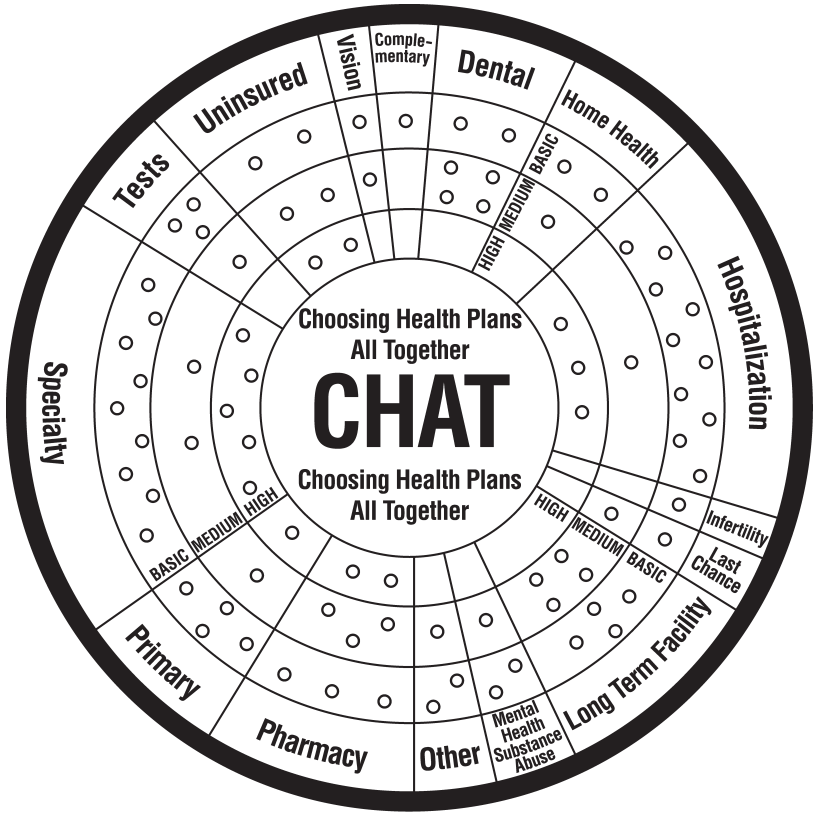
A game, or simulation exercise, was chosen as the format for group deliberations because it is particularly apt for structuring a complex task such as health insurance decision making. The iterative nature of rounds of play in the CHAT exercise facilitates comprehension of complex material, and the progression from individual to small group to larger group facilitates group decision making. The inclusion of both individual and



group components also highlights for participants the potential conflict between individual and group needs. The design of CHAT intentionally minimized the amount and complexity of information and maximized relevant information. Feedback mechanisms are present in the CHAT exercise in the form of hypothetical health event scenarios distributed on the basis of participants' chance landings on a roulette wheel. The receipt of health events facilitates the imagination of clinical consequences from earlier health benefit selections. This feedback makes health insurance options more salient (overcoming the usual apathy consumers express when asked about benefit preferences), advances understanding, and promotes energetic group dialogue (Greenblat 1981). CHAT was designed to distill information about health insurance to that most relevant to consumers, make decisions about health insurance coverage or characteristics interesting, enhance the imagination of the consequences of health insurance features, and involve those with diverse views in a structure that minimizes information complexity and the power of expertise and maximizes participatory decision making.

CHAT is a simulation exercise for groups of nine to fifteen laypersons. The CHAT board (fig. 1) is circular, similar to a pie chart, and contains a wedge for each health service category that can be chosen by participants. The circular design minimizes any presentation of a hierarchy of categories (such as might be found in a list, for instance) that might unduly influence selections, and the relative sizes of the wedges graphically reflect approximate relative costs. Categories have varying levels (basic, medium, or high) of coverage (see table 1) that can be chosen by placing pegs in holes located within the wedges in the board. Participants in the exercise receive fifty pegs, which allows them to fill in about 60 percent of the holes on the CHAT board (see fig. 1). Peg requirements are additive—one must fill in the basic level first before adding pegs to choose the medium level. Dollar amounts are omitted purposefully to minimize numeracy requirements and avoid concern about the “pricelessness of life” (Ubel 2000) that can occur during discussions of health care rationing. Each peg represents 2 percent of an average managed care plan premium in the United States in 1998. Health insurance actuaries provided initial cost data and reviewed final (rounded) estimates; all estimates were rounded to the closest whole peg. A senior version for use with Medicare enrollees did not include the infertility category and had relative costs that differed from the general version (e.g., relative costs for home health care and long-term care were higher). Actuaries reviewed and confirmed the accuracy of relative costs in the general version for Medicaid enrollees.

A players' manual describes the basic, medium, and high levels in each



**Figure 1** CHAT Board Used in Exercise

category, in language rated at a sixth-grade reading requirement or below. Categories are in alphabetical order and color-coded to match the board. A roulette wheel is used to randomly assign health events to participants after they make their initial insurance choices. The roulette wheel includes landing spaces for each health service category; hypothetical health events experienced by participants are thus framed as influenced by chance. The health event cards (also color-coded to match the player's manual and board) describe health and illness scenarios and range from the mundane (e.g., heartburn) to the catastrophic (e.g., spinal cord injury). Hearing the consequences of various choices within a benefit category (none, basic, medium, high) makes benefit selections salient to participants.

Using the board, player's manual, and fifty pegs, individual participants begin by choosing which categories of services to include in a health plan

**Table 1** Details of Benefits

Type of Coverage	Level of Coverage		
	Basic	Medium	High
<u>Complementary</u> (pays for “alternative” treatments)	<i>1 peg:</i> Covers alternative services including acupuncture (for pain), chiropractic (for back, neck, or bone problems), and therapeutic massage.		
<u>Dental</u> (pays for care of your teeth)	<i>2 pegs:</i> You get regular cleanings and x-rays every 6 months. You have cavities filled and bad teeth extracted. You get minimal dental care.	<i>2 + 4 pegs:</i> You get regular cleanings and x-rays every 6 months. You have cavities filled and bad teeth extracted. You get complete dental care including repairs and crowns.	
<u>Home health</u> (pays for in-home care if you are chronically ill or too disabled to care for yourself)	<i>2 pegs:</i> Your insurance pays in full for up to 2 weekly visits from a nurse or 2½ hours daily care from a nurse’s aide.	<i>2 + 1 pegs:</i> Your insurance pays in full for up to 4 weekly visits from a nurse or 5 hours daily care from a nurse’s aide.	
<u>Hospitalization</u> (pays for hospital bills)	<i>10 pegs:</i> You pay \$50 per day for your first 5 days in the hospital. You have little choice about your hospital (i.e., it could be far from your home). There is pressure on your doctor to discharge you as soon as possible.	<i>10 + 1 pegs:</i> You pay nothing per day. You have a large selection of hospitals. There is probably one near your home. You have many special facilities to choose from. There is pressure on your doctor to discharge you as soon as possible.	<i>10 + 1 + 3 pegs:</i> You pay nothing per day. You have a large selection of hospitals. There is probably one near your home. You have many special facilities to choose from. Your doctor can keep you in the hospital as long as he or she wants.

*\*Note: Except in an emergency, you need your insurance plan’s approval before the hospital will admit you.*

(continued)

**Table 1** Details of Benefits (continued)

Type of Coverage	Level of Coverage		
	Basic	Medium	High
<u>Infertility</u> (pays for tests and special procedures for someone having trouble getting pregnant)	<i>1 peg:</i> Infertility services are in the plan. However, expensive tests or procedures may require the insurance company's approval.		
<u>Last chance</u> (pays for special treatments in life-threatening situations such as organ failure or extreme illness)	<i>1 peg:</i> Organ transplants are paid for by your plan.	<i>1 + 1 pegs:</i> Organ transplants are paid for by your plan. If you do not get better with current treatments, your insurance will pay for you to take part in research. You may get new treatments that are being tested.	
<u>Long term</u> (pays for your care over a long period of time in a residential or nursing home)	<i>4 pegs:</i> Half your cost is paid for room and board in an average nursing home.	<i>4 + 4 pegs:</i> All your cost is paid for room and board in an average nursing home.	
<u>Mental health and substance abuse</u> (pays for counseling and therapy, treatment of mental illness, and alcohol and drug abuse)	<i>2 pegs:</i> Your plan pays for up to 30 visits per year to a therapist. You pay \$10 per visit. Your plan pays for up to 30 days per year in a hospital for mental illness or drug abuse. You pay	<i>2 + 1 pegs:</i> Your plan pays for an unlimited number of visits to a therapist or counselor. You pay nothing per visit. Your visits are free. Your plan pays for an unlimited number of days in	

**Table 1** (continued)

Type of Coverage	Level of Coverage		
	Basic	Medium	High
	\$50 for each day in the hospital.	a hospital for mental illness or drug abuse. You pay nothing for each day in the hospital.	
<u>Other medical</u> (pays for services and equipment such as physical therapy, occupational therapy, ambulance service, wheel chair, hospital beds, and artificial limbs)	<i>2 pegs:</i> Your health insurance company reviews your need first. Then it decides if it will pay for all, some, or none of the services or equipment requested.	<i>2 + 1 pegs:</i> There is no review process. Your health plan pays in full for all services and equipment.	
<u>Pharmacy</u> (pays for medicines your doctor prescribes)	<i>3 pegs:</i> Your health plan only pays for medicines on its approved list ( <i>formulary</i> ). If you are prescribed a medicine not on this list, either your doctor has to change it or you pay for it. Your pharmacist must give you a generic medicine if he or she has it. You pay \$15 per prescription.	<i>3 + 3 pegs:</i> Your health plan only pays for medicines on its formulary. If you are prescribed a medicine not on this list, either your doctor has to change it or you pay for it. Your pharmacist may use either generic or brand name medicines for your prescriptions. You pay \$5 for generic drugs or \$10 for brand name drugs.	<i>3 + 3 + 2 pegs:</i> Your health plan is not limited by the formulary. Your pharmacist may use either generic or brand name medicines for your prescriptions. You pay \$5 per prescription.

(continued)

Table 1 Details of Benefits (continued)

Type of Coverage	Level of Coverage		
	Basic	Medium	High
<u>Primary</u> (pays for regular care from your primary or family doctor and staff. Your primary doctor can refer you to other doctors, order special services, and coordinate your care)	<i>4 pegs:</i> You pay \$10 per visit. You wait about 4 weeks for a routine appointment and about 48 hours for an urgent problem. You pay \$25 per emergency room visit. There are few doctors from which to choose. It may be difficult to see the doctor you have now or to pick a female, a minority doctor, or a doctor who speaks your language. You may sometimes see a nurse or physician's assistant instead of a doctor.	<i>4 + 1 pegs:</i> You pay \$10 per visit. You wait about 2 weeks for a routine appointment. You wait about 24 hours for an urgent problem. You pay nothing for ER visits. You have more doctors to choose from. You have a better chance of seeing the doctor you have now or to pick a female, a minority doctor, or a doctor who speaks your language. You'll usually see a doctor rather than a nurse or physician's assistant.	<i>4 + 1 + 1 pegs:</i> Your plan has all the medium levels plus wellness and prevention benefits such as stop smoking programs, diet programs, automatic cancer screening, and stress management.
<u>Specialty</u> (pays for special problems your primary doctor and staff do not handle)	<i>9 pegs:</i> You need your primary doctor's referral to see a specialist in your plan. You wait about 45 days for an appointment. There are few specialists available. You have little choice of which doctor you see.	<i>9 + 2 pegs:</i> You may see a specialist in your plan without a referral from your primary doctor. You wait about 25 days for an appointment. There are more specialists available. You have more choice of which doctor you see.	<i>9 + 2 + 5 pegs:</i> You may see a specialist without a referral from your primary doctor. You wait only a few days for an appointment. There are many specialties available. You may go to almost any specialist in your area. You pay \$10 per visit.

**Table 1** (continued)

Type of Coverage	Level of Coverage		
	Basic	Medium	High
	You pay \$10 a visit. If you visit a specialist outside of your plan or go without a referral, you pay for it.	You pay \$10 a visit. If you visit a specialist outside of your plan or go without a referral, you pay half.	
<u>Tests</u> (pays for blood work, x-rays, or other tests you need)	<i>3 pegs:</i> Your doctor needs to get expensive tests approved before ordering them. You might need the test done at a lab far away from your doctor's office.	<i>3 + 1 pegs:</i> Your doctor can order any tests for you without getting approval. You can have the tests done at or near your doctor's office.	
<u>Uninsured</u> (17% of the people in your community have no health insurance. This may be because they work for a small company, are self-employed, work part time, have lost their jobs, or cannot afford it for other reasons. This option lets some of them buy in to your health plan at half price. People who were in the plan but lost their insurance coverage get the first chance. Next are people with the lowest incomes.	<i>2 pegs:</i> 30% of uninsured people in your community can buy health insurance at half price.	<i>2 + 2 pegs:</i> 60% of uninsured people in your community can buy health insurance at half price.	<i>2 + 2 + 2 pegs:</i> 90% of uninsured people in your community can buy health insurance at half price.

(continued)

**Table 1** Details of Benefits (continued)

Type of Coverage	Level of Coverage		
	Basic	Medium	High
Other insurance companies in your area are considering similar plans. Yours would be the first.)			
<u>Vision</u> (pays for eye exams, glasses, and contact lenses)	<i>1 peg:</i> You get an eye exam every 2 years.	<i>1 + 1 peg:</i> You get an eye exam every 2 years. You pay \$5 per visit. You receive \$75 for lenses and frames if needed every 2 years.	

for themselves and their family (if applicable) and at what level (none, basic, medium, high) to cover them. After making their initial selections, participants encounter the consequences of their choices by experiencing health events. Each participant spins the health event roulette wheel and receives a scenario for the category on which the ball lands. For example, an individual might choose the basic level of pharmacy coverage (\$15 co-pay, automatic generic substitution for brand name drugs, and the use of a formulary) and then land on the pharmacy category during the health event roulette wheel spin. Here she learns that the drug prescribed by her doctor for her urinary infection is not on the formulary. She will also see on the card that if she had chosen the medium level of coverage, the drug prescribed by her doctor would cost her a \$10 co-pay for the brand name or \$5 for a generic prescription.

In the first (individual) cycle of the exercise, after making choices as individuals for themselves and their families, participants read their health events out loud to the group, reveal the level of coverage they chose, and then are invited to reflect aloud about their health insurance selections in light of their health event experience. This completes the first cycle of the simulation exercise. In the second (triad) cycle, groups of three are asked to design a health plan for their neighborhood (or division in a



company) considering themselves representatives for that group. After this triad cycle, individuals again encounter health events, read them aloud to the group, and are invited to reflect upon their choices. In the third (entire group) cycle, the entire group decides together upon features for a single health plan after being told they represent their community (or company). The facilitator starts by inviting any member of the group to recommend a category and a level in that category (e.g., basic home health care) for coverage. If the entire group agrees, the facilitator fills in the necessary holes in a poster version of the board. If there is any disagreement, the facilitator may ask if there is agreement for that category at a lower level (e.g., agreement that the group wants at least basic coverage) or may put the initial suggestion on a list to which they will return and then ask for another recommendation. Discussion proceeds with the facilitator trained to control any dominating members and seek out the opinions of quieter members. Choices by the group are made by consensus as much as possible, although consensus is not required. Occasionally the group agrees to abide by the results of a vote. When voting is used, typically it occurs for a final decision on distribution of the last few pegs.

After the entire group discusses and decides, individuals again repeat choices for themselves and their families (fourth cycle—final individual). A debriefing at the end of CHAT asks the group to justify to their constituency the benefits the entire group chose and then evaluate and comment on the exercise. The facilitator's manual gives specific instructions (including timing and discussion probes) to group facilitators and emphasizes the need to be inclusive and open, encouraging group members to think out loud and explain the reasons for their own choices or preferences.

## Participants

We asked North Carolina residents without health care expertise to participate in and evaluate the exercise. Volunteers were recruited from ambulatory care and community settings (e.g., doctors' offices, senior citizens' centers, and community centers). Groups were assembled and convened to be homogeneous with regard to type of health insurance (Medicare, Medicaid, private, uninsured) and heterogeneous with regard to other characteristics (gender, age, race). We oversampled low-income, low-education groups to examine whether the exercise was accessible and acceptable to this population.

## Measures

Volunteers completed preexercise written questionnaires about demographics, type and source of health insurance, health status, health care utilization, and out-of-pocket costs. Questions also asked about the relative importance of health insurance features including choice of doctors, access to specialists without referral, good mental health coverage, prevention or wellness programs, out-of-pocket expenses, and wait times for doctor appointments (Mechanic, Ettel, and Davis 1990). Postexercise questionnaires asked participants to rate their enjoyment, their understanding, the ease of use, and the informativeness of CHAT, using a published instrument (Danis et al. 1997; Biddle et al. 1998). Other items used a five-point Likert scale to rate affective response to the exercise ("When I think about the game I feel angry" and "When I think of the CHAT game I feel frustrated") and perceptions of the group process, outcome of decision making, informational adequacy, and range of choices available. These items assessing procedural, decision outcome (distributive), and informational issues were adapted from existing instruments (Lind, Kanfer, and Earley 1990; Tyler 1994; Tyler, Degoe, and Smith 1996; Lind, Tyler, and Huo 1997). Factor analysis confirmed the content of scales assessing perceptions of the group process, outcome, range of alternatives, and information (Kim 1978). Scales with Cronbach's coefficient alpha (Cronbach 1951) greater than or equal to 0.80 were considered to be sufficiently reliable for these analyses (Anastasi 1988; Cronbach 1990). A single dichotomous item asked whether participants would be willing to abide by the group's choice of health plan.

## Was Deliberation Feasible?

For deliberation to be feasible, a representative sample of individuals needs to participate and participants need to be engaged and able to understand the material and the topic. The latter can be a particular challenge for deliberations about health insurance, health costs, and health care. Accordingly, we examined whether participants, especially those with low educational attainment or from minority groups, found the exercise enjoyable, easy to do, informative, and understandable. Feasibility of deliberation is also influenced by the extent to which individual views are clearly and accurately represented (communicated) to other deliberators. Hence we tested whether the resource allocation choices made during the initial individual stage of the exercise were consistent with the expressed impor-

tance of certain aspects of health care that the participants had reported on preexercise questionnaires and needs that are predictably related to certain sociodemographic characteristics of the responses. We predicted that those who agreed or strongly agreed (compared to those who disagreed or were neutral) with the importance of specific health insurance features (Mechanic, Ettel, and Davis 1990) before participating in CHAT would be more likely to choose related types of coverage in their initial (before group discussions) selections. Specifically, those who considered choice of doctors important would be more likely to choose medium or high levels of primary or specialty services, because those options offered larger physician networks. We expected that those who agreed with the importance of access to specialists without a referral would choose the medium or high level of specialty care more often than those who did not, because the basic level stipulated the need for a referral from a primary care physician. We hypothesized that those who considered good mental health coverage important would include mental health and substance abuse coverage (at any level) more often than those who did not consider this important. We hypothesized that those who agreed with the importance of prevention would be more likely to select the high level of primary care, with its emphasis on preventive and wellness services. Finally, we expected that those who deemed wait times for doctor appointments important would more often choose medium or high primary care, which were described as providing less of a wait for an appointment than the basic level.

We developed other analyses based on predictable relationships between sociodemographic characteristics and health insurance choices. We predicted that lower income individuals (those with incomes less than \$15,000/year) would choose options with lower co-pays (such as medium or high hospitalization and medium or high pharmacy). Although there is little research on the relationship between income and preferences for dental and vision coverage, we hypothesized that lower income respondents might be more likely to include coverage for dental and vision services and compared these participants' choices to the choices of participants with incomes greater than \$15,000/year. We examined the relationship between age and participant choices for home health care and long-term nursing facility care coverage by comparing mean age among those who did or did not select these options (at any level of coverage), predicting that older participants should be more likely to select these options. The use of complementary and alternative treatment has been associated most consistently with level of education (Cuellar et al. 2003; Schafer et al. 2003). Hence we predicted that the relatively better educated would place

more importance on complementary and alternative medicine and compared the proportion of participants selecting that category with and without a college degree.

### Evaluating the Structure of Deliberation

The project's *representativeness* was assessed by describing the study population and ensuring that, at a minimum, disenfranchised and vulnerable subgroups, including those with low income, the uninsured, those with chronic or serious illness or fair to poor health status, and minorities, were represented in proportions equal to or greater than their presence in the population.

The information available to participants during deliberations needs to be viewed by them as complete, credible, lacking undue bias either in content or in presentation, and relevant to the task. Hence we asked whether participants found the exercise informative and measured participants' views of information credibility and adequacy using a six-item scale. Because it is particularly important for those who are potentially less well-informed, and less influential in society, to be able to participate on an equal footing, we examined whether less educated participants differed from more educated participants in their evaluation of informativeness or their assessment of the credibility, completeness, and relevance of information. Other aspects of the structure of deliberations, for instance early public input, were either not applicable (because this was a project to evaluate, rather than use, this deliberative structure) or not addressed in this project.

### Evaluating Deliberative Processes

We evaluated the process of deliberation in multiple ways. Participants were asked to rate their affective response to the exercise, including anger and frustration, because successful public engagement should avoid such responses. Other items in the postexercise questionnaire asked individuals to rate their perceptions of respectful treatment by others, whether they had the chance to present their views and whether those were taken into account, the fairness of the way disagreements were resolved in the group, and other judgments of the fairness of the group process. Another set of questions asked participants their views on their group's decision. A single dichotomous item asked whether individuals would be willing to abide by the decision of the group. Deliberative procedures, ideally,

should be inclusive and respectful of diverse points of view; minority perspectives are to be actively sought. If particular subgroups, especially vulnerable ones or those whose points of view are in the minority, perceive that their views are not welcome or respected, deliberative procedures have not lived up to their promise. Hence we compared responses on process items for African Americans and non-Hispanic whites; those in different age, income, and education categories; those reporting fair or poor compared to those reporting better health status; those with no to those with a chronic or serious illness in the household; women compared to men; and those without insurance to those with insurance. We also examined whether those who reported anger or frustration also rated the group process or decision less favorably. Evaluation of the process of deliberations, not pursued in this article, could also include measures of the distribution or equality of participation in discussion or evidence that individuals demonstrate or develop more public-spirited orientations (or less self-interested orientations) toward a particular policy question. In the case of health spending priorities, attention should also be paid to the potential for dominating experts (either as participants or as information sources) and the participation, during deliberations, of vulnerable or stigmatized groups (e.g., the mentally ill or poor).

## Evaluating Outcomes

We examined several indicators of impact on individual participants. We asked individuals whether participation motivated them to learn more about their own health insurance and whether they had “learned a lot” from participating (five-point Likert agree-disagree scale). We also examined the effect of the exercise on individuals’ health benefit selections, comparing Round 1 to Round 4 choices, for all categories and for all types of groups. In a review of public opinion on mental health services and the parity debate, Kristina Hanson (1998) cites evidence for public support for mental health and substance abuse treatment benefits; however, she warns that public support may be fragile as “some evidence suggests . . . it deteriorates rapidly if the potential for personal financial sacrifice is acknowledged” (1062). Evidence that support for mental health coverage increases after the exercise would support the idea that participants learned more about their potential future mental health needs or changed their priorities out of concern for the needs of others. Similarly, we predicted that a greater understanding of future health needs would lead participants to select coverage in Round 4 for “last-chance” therapies, home health, and

long-term care. At the time of this research, home health care was not typically included in health insurance, and we expected that participants, as they learned about the types of care provided at home and the consequences of lacking coverage for it, would be more likely to select home health coverage in Round 4. Long-term facility care still is rarely included in most commercial health insurance and is often viewed as only needed by the elderly. We predicted that if CHAT improved understanding of the various types of nursing facilities and the conditions for which they are used, participants would more often choose this option in Round 4. We predicted that last-chance therapies might be viewed negatively until participants imagined circumstances, usually outside of their own experience, that might make such an option potentially desirable. We expected that choices for this category might change to add or expand coverage in nonsenior groups. Seniors, we hypothesized, might add or expand this coverage for some of the same reasons as younger participants, but could also decrease their coverage to select other, higher priority items such as home health or long-term care. We sought evidence that individuals demonstrate or develop more public-spirited orientations by comparing selections for the uninsured category before and after group discussion.

Other important assessments of outcomes, not pursued in this article, might include indications that individuals or groups learn about health costs and trade-offs, become willing to trade off individual benefits in light of the claims of others, or otherwise change their views about the need for cost-containment measures. In addition, deliberation might be expected to create a greater sense of engagement in public policy, increase individuals' sense of political efficacy internally (greater feelings of competence to participate in policy) or externally (increased sense that participation could affect policy decisions), enhance trust in political leaders or policy making, or increase public participation in policy (Angelique, Reischl, and Davidson 2002; Zimmerman and Zahniser 1991; Yeich and Levine 1994).

Analyses included chi-square statistics and Ronald Fisher's (1935) exact test for the analysis of categorical variables, and the calculations of means, standard deviations, and Student *t*-tests (Student 1907) or analysis of variance (ANOVA) for continuous variables. The Mantel-Haenszel chi-square statistic was used to examine linear relationships between pairs of ordinal variables (Mantel and Haenszel 1959). Results are reported as statistically significant if  $p \leq 0.001$  because of multiple comparisons (Snedecor and Cochran 1980; Sankoh, Huque, and Dubey 1997). Analyses of benefit selections were performed separately for general and senior versions of

the instrument, because the content of the exercise (e.g., relative costs of categories and levels) differed. All analyses of benefit selection data or postexercise questionnaire data were adjusted for clustering within groups.

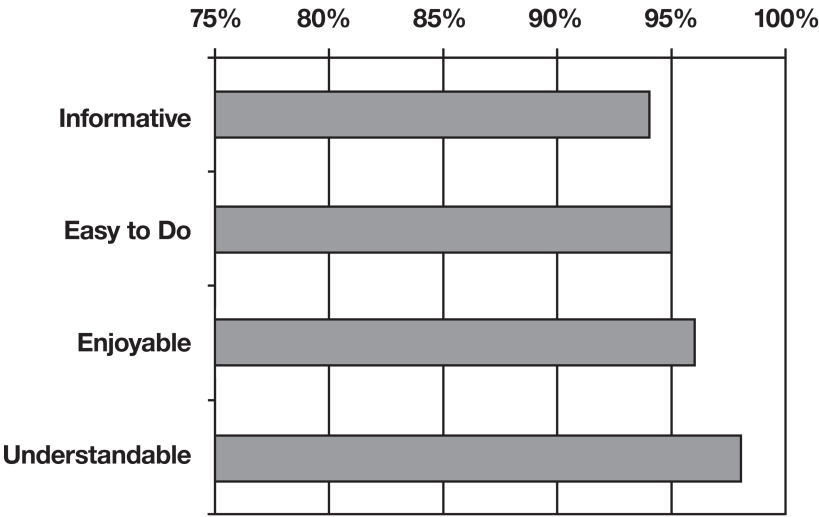
This project was approved by the Office of Human Subjects Research at the Clinical Center of the National Institutes of Health and by the institutional review boards at the University of Michigan, the University of North Carolina at Chapel Hill, and Duke University. During the exercise, participants were given an alias to preserve their anonymity to the research team.

## Results

### Feasibility

Study participants found CHAT enjoyable (96 percent), easy to understand (98 percent), easy to do (96 percent), and informative (94 percent); for each of these ratings, approximately two-thirds found the game “very” enjoyable, easy to understand, easy to do, and informative (fig. 2). Individuals with a high school diploma or less education were more likely than individuals with some college or more to rate CHAT as informative (96.0 vs. 92.8 percent,  $X^2 = 20.86$ ,  $p = .0001$ ) but less likely to indicate that CHAT was enjoyable (93.6 vs. 98.0 percent, Fisher’s exact  $p = .0015$ ) or understandable (94.5 vs. 99.4 percent, Fisher’s exact  $p = .0012$ ). Minority participants, when compared with white participants, were less likely to indicate that CHAT was enjoyable (94.2 vs. 98.1 percent, Fisher’s exact  $p < .0001$ ). There was no difference between the groups in their assessment whether CHAT was easy to use and understandable. When compared to those in good to excellent health, individuals in fair or poor health had no significant differences in evaluation of ease of use, understandability, and enjoyability. When compared to individuals with health insurance, those without were more likely to report that they did not enjoy CHAT (11.9 vs. 2.0 percent,  $X^2 = 16.62$ ,  $p = .0008$  or Fisher’s  $p = .0018$ ).

Relationships between participants’ responses on preexercise questionnaires and their choices during the exercise are shown in table 2. Those who, before participating in CHAT, considered good mental health coverage important were more likely to select mental health coverage (66.5 vs. 55.2 percent,  $p = 0.01$ ). Other attitudes, including the importance placed on preventive services, seeing a specialist without a referral, and the timeliness of appointments, did not predict significant differences in benefit



**Figure 2** Participants' Views of CHAT

choices. We found some predicted relationships between benefit selections and sociodemographic characteristics as well. In nonsenior groups, those who chose home health care and long-term nursing facility care coverage were older. In senior-citizen-only groups, age was not statistically associated with this choice, although most individuals in senior groups (>70 percent) chose these options. Those with a college degree were, as predicted, more likely to choose complementary and alternative medicine. Lower income individuals were more likely to choose vision services, but not dental services, which were selected (at some level) by 90 percent of those in nonsenior groups and by 73 percent of those in senior groups. In senior groups, low-income individuals were more likely to choose the pharmacy options with lower co-pays (50 vs. 32 percent,  $p = .01$ ), but income did not predict this choice in nonsenior groups. Income was not associated with individual choices for no hospitalization co-pays in senior or nonsenior groups; over 80 percent chose the no co-payment option.

**Structures**

*Representativeness.* Five hundred sixty-two individuals took part in fifty sessions of CHAT. Participants had a mean age of forty-eight and a wide range of incomes and educational attainment (see table 3). Low-income persons were overrepresented (45 percent had annual incomes less than



**Table 2** Relationships between Individual Characteristics and Their Insurance Preferences

Insurance Choice	Individual Characteristic	General Version ( <i>n</i> = 441)		Senior Version ( <i>n</i> = 121)	
		% <sup>a</sup>	<i>p</i>	%	<i>p</i>
Vision	Income < \$15K	82.5	.0018	71.6	.0018
	Income ≥ \$15K	62.0	.0018	67.4	.0018
	< 4 yrs. college	81.6	.0004	67.2	NS
	≥ 4 yrs. college	59.2	.0004	72.5	NS
Basic pharmacy (low co-pay)	Income < \$15K	68.6	NS	30.4	.01
	Income ≥ \$15K	62.0	NS	52.2	.01
	< 4 yrs. college	72.8	.001	77.0	NS
	≥ 4 yrs. college	54.0	.001	70.8	NS
Long-term facility	Mean age: Any	42.0 <sup>b</sup>	.0014	72.5 <sup>b</sup>	NS
	Mean age: None	36.8 <sup>b</sup>	.0014	73.9 <sup>b</sup>	NS
Home health care	Mean age: Any	41.2 <sup>b</sup>	<.0001	71.8 <sup>b</sup>	NS
	Mean age: None	36.9 <sup>b</sup>	<.0001	73.4 <sup>b</sup>	NS

<sup>a</sup> Proportion (except for age<sup>b</sup>) in each demographic category who chose this insurance option at any level, with the exception of basic pharmacy. For basic pharmacy, this is the proportion choosing basic, with the denominator being all those who selected any coverage in Pharmacy.

<sup>b</sup> These figures are mean ages (not proportions).

\$15,000), as planned, to determine whether the exercise was acceptable to and usable by disadvantaged populations. About half our participants were men and 44 percent self-identified as nonwhite. More than one quarter reported fair or poor health status. A similar percentage reported a chronic or serious illness in their household and about one-fifth reported a household member hospitalized in the past six months. The vast majority had had a doctor visit in the past year.

*Information.* The vast majority of participants considered the exercise informative (94 percent); approximately two-thirds found it very informative. The adequacy and credibility of information (e.g., “We had enough information to make good decisions”) was also rated favorably [mean (SD) 4.2 (0.8)]. Individuals with a high school diploma or less education were more likely to rate CHAT as informative (96.0 vs. 92.8 percent,  $X^2 = 20.86$ ,  $p = .0001$ ) and had higher ratings for information adequacy and credibility (Wilcoxon  $Z = 4.35$ ,  $p < .0001$ ). Minority participants, when compared with white participants, were more likely to rate CHAT as informative (95.0 vs. 92.9 percent, Fisher’s exact  $p < .0001$ ). When compared to those in good to excellent health, individuals in fair or poor

**Table 3** Participant Characteristics (*N* = 562)

Characteristic	<i>N</i>	% <sup>a</sup> or Mean ±SD
Age (in years)	—	47.8±19.0
Female	290	52.5
Missing	10	—
Race		
White	312	56.2
Black or African American	219	39.5
Other/Unknown	24	4.4
Hispanic or Latino	12 <sup>a</sup>	2.3 <sup>a</sup>
Insurance status		
Private Insurance	172	44.3
Medicaid	15	3.9
Medicare	90	23.2
Other Insurance	25	6.4
Uninsured	86	22.2
Missing	174	—
Marital Status		
Married	145	26.1
Single or never married	212	38.1
Widowed/divorced/separated	199	35.8
Educational Attainment		
Less than high school	61	10.9
High school graduate or GED	144	25.8
Some college	137	24.6
College graduate or more	216	38.7
Household income		
\$0 – <\$7,499	130	25.0
\$7,500 – <\$14,999	106	20.3
\$15,000 – <\$34,999	140	26.9
\$35,000 or more	145	27.8
Unknown or not reported	41	—
Health status		
Excellent	108	19.3
Very good	192	34.3
Good	169	30.2
Fair	81	14.5
Poor	10	1.8
Chronic illness in household in past year	193	36.0
Member of household hospitalized in past 6 months	96	17.6
≥ 1 physician visits in households in past 6 months	531	94.5

**Table 3** (continued)

Characteristic	<i>N</i>	% <sup>a</sup> or Mean $\pm$ SD
Out-of-pocket health care costs, past 12 months		
\$0	88	18.2
<\$500	196	40.5
\$500 – <\$1,999	137	28.3
\$2,000 or more	63	13.0
Unknown	78	—

<sup>a</sup> Percentages do not always add to 100 due to unknowns, missing responses, and rounding. Race percentages show over 100 because participants could select more than one category.

health scored significantly higher on the informational adequacy scale (4.33 vs. 4.15 of 5 points, Wilcoxon  $Z = 2.0709$ ,  $p = .0384$ ) but showed no difference in their ratings of informativeness.

## Processes

We were particularly interested in how individuals would rate the group's decision and decision-making process. Participants rated procedural justice (e.g., "Disagreements in the group were resolved in a fair way") highly [mean (SD) scale score = 4.3 (0.9), possible range 1 to 5; see table 4]. The two-item scale assessing perceptions of distributive justice ("I was satisfied with the group's decision" and "The group's decision was favorable for me") also received favorable ratings from participants [mean 4.1 (0.9)]. Those who said they found the CHAT game somewhat or very frustrating (17 percent of participants) tended to rate the group's decision less favorably (mean score 3.9 vs. 4.1,  $p = 0.04$ ), but frustration did not predict perceptions of procedural justice or informational adequacy. About 85 percent of participants were willing to abide by the group's chosen health plan (fig. 3). Those willing to abide by the group's decision rated the group decision more favorably (4.2 vs. 3.6 mean score,  $p < 0.0001$ ). They also rated the adequacy of information more highly (4.2 vs. 3.9,  $t = 2.92$ ,  $p = 0.004$ ) but did not differ in perceptions of procedural justice.

Individuals with less education were twice as likely as those having more education to express feelings of anger associated with CHAT (23.9 vs. 12.6 percent,  $X^2 = 21.04$ ,  $p = .0003$ ). Significant differences between the two groups were observed for the decision outcome scale (Wilcoxon  $Z = 2.88$ ,  $p = .0039$ ), with less educated participants rating the decision

**Table 4** Descriptive Statistics for Process, Informational Adequacy, and Group Decision Scales

Scale	Mean (SD)	Median	Min (n)	Max (n)	No. missing
Process scale	4.3 (0.9)	4.6	1 (11)	5 (170)	33
Information scale	4.2 (0.8)	4.3	1 (4)	5 (102)	64
Group decision scale	4.1 (0.9)	4	1 (10)	5 (188)	20

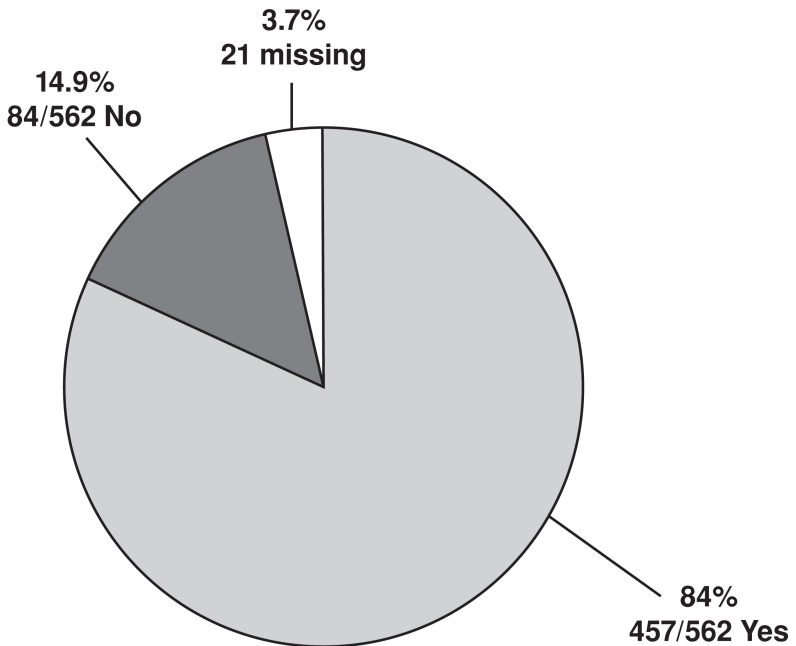
*Note:* Descriptive statistics are standardized for ease of interpretation; the mean and median scores were divided by the number of items in the scale. (1 = Strongly Disagree, 5 = Strongly Agree)

outcome more favorably than more educated respondents. There were no differences between the groups in reported frustration or in their willingness to abide by the group’s decision.

Minority participants, when compared with white participants, rated the group decision slightly more favorably (Wilcoxon  $Z = 2.60$ ,  $p = .0093$ ). There was no difference in reported frustration between the two groups. When compared to those in good to excellent health, individuals in fair or poor health were more likely to indicate frustration (31.1 vs. 15.2 percent,  $X^2 = 15.3242$ ,  $p = .0041$ ). No significant differences in willingness to abide by the group decision or the summary scores for the process and decision outcome scales were observed between participants who reported fair or poor health compared with those who reported excellent, very good, or good health.

When compared to individuals with health insurance, those without were more likely to report anger when they thought about the game (31.3 vs. 14.3 percent,  $X^2 = 20.14$ ,  $p = .0005$ ) and scored lower on the procedural justice scale (3.8 of 5 points vs. 4.3, Wilcoxon  $Z = 2.28$ ,  $p = 0.0226$ ,  $t = 2.43$ ,  $p = .0156$ ). No differences were observed in the degree of frustration, willingness to abide by the group decision, or assessment of the decision outcome.

There were few differences between men and women in their evaluation of the CHAT process or the decision derived from it. Women rated the process more favorably than did men (4.4 of 5 points vs. 4.2, Wilcoxon  $Z = 2.73$ ,  $p < .0063$ ,  $t = 2.84$ ,  $p = .0047$ ).



**Figure 3** Willingness to Abide by Group's Choice of Health Insurance Plan

### Outcome

Most individuals (69 percent) reported that they were motivated to learn more about their own health insurance and that they had learned a lot from playing the game (73 percent). When compared to those in good to excellent health, individuals in fair or poor health were more likely to report that they learned a lot (89.5 vs. 69.3 percent,  $p = 0.0007$ ), as were those with a high school diploma or less education (84.4 vs. 65.4 percent,  $X^2 = 38.81$ ,  $p < .0001$ ). Women were less likely to indicate that they had learned a lot through their participation in CHAT (68.2 vs. 76.7 percent,  $X^2 = 11.03$ ,  $p = .0262$ ).

Evidence that the deliberative process involved in the CHAT exercise altered choices could be found among participants in all types of groups—those without insurance and those with either Medicare or commercial health insurance. Overall, individuals significantly increased the number of services they chose to include in their benefit package and, as a trade-off, accepted more restrictive levels of service following group delibera-

tion. Participants also switched their choices of particular services. Uninsured participants were more likely after the exercise to choose specialty care (69 to 81 percent,  $p = .001$ ), last chance (experimental therapy; 50 to 59 percent,  $p = .01$ ), and tests (81 to 88 percent,  $p < .01$ ), with a trend toward less frequent selection of alternative medicine (59 to 50 percent,  $p = .03$ ). Commercially insured participants were also more likely to choose specialty care in Round 4 (92 to 100 percent,  $p = .005$ ), as well as mental health coverage (58 to 72 percent,  $p = .001$ ), home health (58 to 72 percent,  $p = .001$ ), and last-chance treatments (58 to 76 percent,  $p = .001$ ). Medicare eligible participants were more likely to choose specialty care (70 to 83 percent,  $p = .01$ ), less likely to select last-chance treatments (34 to 21 percent,  $p < .01$ ), and tended to choose tests more often (74 to 83 percent,  $p = .03$ ). Some evidence that the process fostered a more public-spirited orientation was apparent in the Medicare groups but not in the commercially insured groups as indicated by a slightly higher percentage of Medicare enrollees choosing to extend coverage to the uninsured (24 to 36 percent,  $p = .03$ ).

## Discussion

The results of our evaluation project reveal that CHAT is an enjoyable, easily understood, informative, and engaging deliberative process. Groups of persons without health care expertise and with a wide range of educational attainment and health care experiences, including a disproportionate number of those with low incomes and education, could use CHAT to design health plans that are acceptable to them and that fit within limited resources. CHAT appears able to engage citizens in discussions about the reality of limited resources and the necessary trade-offs. In contrast to Jonathan Lomas, who found Ontario citizens generally unwilling to be involved in setting priorities (Lomas 1997b; Abelson et al. 1995), we found that participants enjoyed and valued their engagement in the process, reported that they were willing to abide by decisions made by their group, and evaluated the group process and decision favorably. Our findings are consistent with findings in other studies of perceptions of justice, in which individuals evaluating an organizational decision can be dissatisfied with the outcome, but content with the decision-making process (Brockner and Siegel 1996).

CHAT is an exercise in which participants design a hypothetical health benefits package, so the favorable views of participants for the groups' decisions and processes and, especially, their health benefit choices should

be interpreted with caution. Further work is needed to evaluate CHAT's validity as a tool to measure health benefit preferences, for instance examining CHAT's ability to predict actual benefit choices. In addition, some of our findings raise concerns about the ability of deliberative procedures to engage all citizens equally. Results from some vulnerable and disenfranchised groups indicate potential problems with their experiences. For instance, participants without health insurance enjoyed the game less, nearly one-third of that group reported anger, and their ratings of procedural justice were lower than the rest of the participants. Those in worse health were more likely to report frustration, although they also, encouragingly, gave higher scores on informational adequacy. Less educated participants reported more anger, less enjoyment, and less understanding of the exercise, but also more learning and rated informativeness and information adequacy more favorably. Perhaps they felt more able than they did before the exercise to engage the topic afterward, but still not as competent as those with more education. Because the exercise was designed, in part, to improve imagination and understanding of the clinical consequences of health care trade-offs, even for those with little health care experience, one might expect healthier participants to report more learning because their baseline level of knowledge about health insurance and health care should be much less than those in worse health. Instead, we found that those in fair or poor health were more likely to report that they "learned a lot."

The future evaluation of deliberative procedures will need to include attention to a wide variety of issues and outcomes. An analysis of deliberations (discussions), for instance, could examine the quality of reasons or the relative presence of self-interest and public mindedness. In other work (Goold, Baum, and Danis 2005), we analyze dialogue from this study. Individuals present arguments about the need to protect against future harms or losses (e.g., large financial losses), the process of care (e.g., choice of providers), economic considerations (e.g., the tendency to overuse covered services—moral hazard), and justice (e.g., the need to protect the vulnerable). In another study, we found that group discussions included reasonable arguments for and against the use of limited resources to include the uninsured (Goold et al. 2004).

Future work evaluating this simulation exercise will need to carefully examine the impact of health events on subsequent choices and also examine the relationship between choices made during CHAT and those made in real life (e.g., during open enrollment periods). Trying to describe the insurance preferences of individuals or groups (much less both) remains

an empirical and conceptual challenge. Even expressed preferences demonstrated by health insurance plan selection might not reflect considered and reflective wishes. Future work should also study the effect of group composition on group recommendations and individuals' evaluations of the process and outcome of deliberations. Of particular interest would be research examining the outcome of deliberative processes on policy, especially compared to existing democratic structures. Different types of deliberative procedures should also be studied, for example comparing the outcomes of more or less structured processes.

There are a number of levels at which allocation decisions are made. At the most macro level, social policy decisions influence what sort of health system(s) will be in place. In the United States, there is an employment-linked and market-based commercial system for some workers, a federally run social insurance system for retirees and the disabled financed by a payroll tax, state-run insurance (Medicaid) and services (public health departments) for the needy financed by mixed state and federal tax revenues, and, for an unfortunate one-sixth of our citizenry, a mixture of public health services and rescue services financed (with increasing difficulty) through cost shifting. Decisions about what services to insure are typically made by employers and insurers (including governmental agencies), with varying levels of input from the insured. Control exerted in governmental programs is through the usual methods of political accountability. Those affected by allocation decisions (e.g., Medicaid or Medicare enrollees), however, differ tremendously in their political power. The goals reflected in many allocation decisions (e.g., productivity or reelection) and the assumptions about preferences (e.g., the willingness of low-income citizens to accept co-pays) may or may not reflect the goals of the insured population. Some services known to be highly valued, such as dental care, have been omitted from health insurance altogether primarily by historical accident, whereas others, such as complementary and alternative services, infertility, or maternity benefits may be included as strategies to enroll healthier rather than sicker members. What is available in any health insurance plan is largely out of consumers' control. The little control exerted by consumers in the current commercial system is via choice, or exit, at the level of insurance selection, but this power is not available for the many who lack alternative insurance options, and, even for those who could switch insurers, the choices can be perceived as having no real difference (Goold and Klipp 2002). Furthermore, other barriers to exit exist, for instance an existing illness or relationship with a physician (Rodwin 2003). Imprudently, individuals tend to choose on



the basis of their own predicted (and predictable) health services needs, typically failing to consider the sum risk of the rare and catastrophic in their calculations, the common (but stigmatized) need for mental health services, or the frightening prospect of long-term care.

Compounding these problems is the need to balance individual needs and preferences; even if there were a way to collect and aggregate information about individual insurance preferences, it is not at all clear community (or group) preferences would be identical to aggregated individual preferences. A well-to-do community, for instance, might justifiably prefer preventive services with a low or absent co-pay, despite the ability of the majority to afford out-of-pocket expenses, to promote a healthier public. Even more compelling is the idea that individuals and groups are willing to accept costs and limits on services to provide insurance to more citizens (Goold et al. 2004).

### **Policy-Related Uses of CHAT**

Several completed and ongoing studies and projects suggest that the CHAT exercise offers a variety of potential policy uses. The study reported here was part of a project in North Carolina to evaluate CHAT and to determine the priorities of several populations, including the uninsured, publicly insured (Medicare), and privately insured groups (Danis, Biddle, and Goold 2002, 2004). Two projects in Minnesota were prompted by gubernatorial pressure to address the rising cost of health care in Minnesota. In the Health Reform Study (Benavides and Biddle 2000) and a Chamber of Commerce project (Benavides and Klein 2001), employers used CHAT to ascertain the views of their employees about how to best structure employer-sponsored health benefits. A project conducted by Sacramento Healthcare Decisions and sponsored by the California Health Care Foundation used the CHAT exercise to obtain employee input that may be useful to large insurance purchasers, as that state, like others, faces double-digit inflation in managed care premiums (Robertson 2002).

How else might the CHAT exercise be used? Communities struggling with extremely limited resources in their efforts to provide basic services to the uninsured could use CHAT to identify the priorities of that unique, heterogeneous, and often mischaracterized group (Public Opinion Strategies 2000). Union leadership could learn more about the priorities of their constituents and employers about their employees' preferences. Federal policy makers could examine the trade-offs that Medicare enrollees are willing to make to include pharmacy, dental, or other benefits when con-

strained by the current (or proposed) Medicare budget. Managed health plans could use CHAT as an opportunity for consumers to have voice as well as choice in health benefits (Schlesinger, Mitchell, and Elbel 2002).

An electronic version of the exercise, recently completed, provides the capacity to modify options in the decision exercise, including the total funds available for health insurance; the proportion designated for administrative expenses; and the number, type, and description of benefit options (and the associated health events) and their relative costs. Thus CHAT can be tailored to the needs of particular populations or groups. States facing budgetary constraints for Medicaid could use CHAT, along with other means, to determine which services Medicaid enrollees themselves would choose to insure through the program. Employers and unions may bargain for the total contribution to health insurance (or all benefits); then have union leaders, representative groups of employees, or human resource managers use CHAT to design diverse insurance plans and riders; and allow employees to choose within resource constraints from those options.

Our findings suggest that CHAT, a tool that permits individuals and groups to voice opinions about the relative priority of various health benefits, holds promise. Although it remains to be determined whether the insurance preferences elicited in CHAT are, ultimately, sufficiently valid and reliable to form a sound basis for benefit package options, CHAT has the potential to stimulate deliberation about limited health care resources, priorities, and the need for intrapersonal and interpersonal trade-offs, a dialogue that is long overdue. CHAT could even be a useful empowerment tool for consumers and communities, achieving for health insurance decision making what assertiveness training has achieved for clinical decision making (Greenfield, Kaplan, and Ware 1985). A variety of proposals exists about how citizen participation in health care priority setting could (or should) be done (Fleck 1992; Daniels and Sabin 1998; Giacomini et al. 2000; Goold 1996; Gutmann and Thompson 1997). Certainly the structure of an exercise in deliberation about limited resources is only one piece of a complex puzzle that must include special attention to issues of representation (Jacobs 1996; Lomas 1997a).

Most promising, participants evaluated CHAT favorably in a variety of dimensions, and nearly all said they were willing to abide by the group's decision. The high ratings given for procedural and distributive justice elements, if confirmed in other populations, may indicate that CHAT has potential as a fair process for deliberating about health care allocation decisions. Thus, it holds promise as a tool to assist policy makers who

wish to incorporate laypersons' voices and values into health care allocation decisions by providing an accessible, engaging, and potentially motivating tool for citizen participation in such decisions.

Local, state, and federal governments; employers and employees; and particularly the uninsured are searching for solutions to the high cost of health care services and insurance. Resources available for health care services are inescapably limited, making trade-offs between competing health needs inevitable. Although resource allocation decisions are made daily by insurers, health care facilities, clinicians, and health departments, those affected by such decisions have had little influence on them. The insured American public has enjoyed a rich health care system with its costs largely hidden. A mismatch exists between their preferences and desires—for health care coverage, services, expertise, and access—and the economic capacity to absorb the costs. Insurers, facilities managers, and clinicians avoid acknowledgments that economics could influence clinical or benefit coverage decisions for fear of reprisal from patients or the media. Ironically, a lack of openness about limited resources and rationing can contribute to a growing distrust on the part of patients that their health is being sacrificed for cost-containment purposes. Participatory approaches to allocation decision making have the potential to put control and power in the hands of those affected by the decisions. The CHAT exercise, by framing health benefit preferences in the context of limited resources, could allow the population to acknowledge and describe limits it would be willing to accept and perhaps even change current expectations for more and better health care at no additional cost. A participatory process stands as an alternative, which merits further examination, to a closed, often hidden, system with little input from patients and citizens.

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